

# 2023: Year in Review



# **engineering**

FOR POWER SUPPLY In the past year, HELB has achieved significant progress through numerous projects, both in the field and in the production facility. This dynamic period was marked by the creation of new references worldwide, the development of innovative platforms, the signing of key contracts, participation in prestigious fairs and conferences, and new workplaces creation. Through new projects, market expansion, established collaborations and investments in technological advancement, HELB continued to build reputation in electrical power engineering.

However, HELB's success is not limited to business aspects only. That is why, in addition to the achievement of business goals, activities aimed at employees and the community were not neglected during 2023.

### **PROJECTS**

#### • HELB in Iceland



Iceland

HELB successfully completed a project in Iceland, making a significant contribution to the improvement of the infrastructure of Reykjavik Keflavik Airport. During the year and a half of the project, HELB's fitters completed 12 phases of reconstruction in Departures section of the Airport. At the same time, 168

components of various equipment were installed and 218 pieces of existing equipment have had controls reconstructed. A completely new system was implemented at Arrivals section, which included the installation of baggage sorting equipment in a length of about 800 meters, equipped with four lines. Additionally, the project included the installation of a steel platform. The work was often carried out at night to ensure uninterrupted passenger transport, keeping the entire air traffic during the project intact.

#### • Record Cabinet Production

In 2023, HELB's production facility produced and delivered 363 control and protection cabinets, low-voltage distribution cabinets, and portable power and control cabinets. While some were intended for the domestic market, many were delivered worldwide, from Germany and South Africa to the United States.



Production

#### • Completed innovation and development project

HELB's development team completed the most complex innovation and development project so far, called "System for Losses Optimization in Advanced Networks", known as Dingo. The system, developed in collaboration with the Faculty of Electrical Engineering and Computing, HEP-ODS, and Sedam IT, involves continuous analysis of technical parameters of the distribution network using machine learning to estimate and predict technical and non-technical network losses. Dingo is believed to contribute to the future of energy and smart grids enabling a reduction of losses in low-voltage networks, both in Croatia and the EU.



Dingo

## Reconstruction of SS 35/10(20) kV Vukovar 3

HEP - Distribution System Operator and KONČAR - Engineering (KET) signed a contract for the supply of equipment and execution of works on the reconstruction and expansion of SS 35/10(20) kV Vukovar 3. HELB, as a subcontractor, was responsible for delivering part of the equipment and performing electrical installation works on the reconstruction. The



Reconstruction of SS 35/10(20) kV Vukovar 3

project lasted more than a year and included tasks such as dismantling 35 and 10 kV equipment, installation of switching blocks, electrical installation works on power transformers, and work on the production and distribution system of direct voltage 110 kV.

#### • Construction of 380 kV Substation in Germany

At the end of 2023, HELB began electrical installation works at the construction of a 380 kV substation in the Baden-Württemberg region, considered as a key point in Germany's north-south transmission infrastructure. Due to the complexity and scope of the work, this will be a multi-year project.

#### • Works on the Construction of SE Gornji Humac



SE Gornji Humac

On the island of Brač, the construction of SE Gornji Humac with a connection power of 9,9 MW and installed power of 13.634,40 kWp is underway. HELB is participating as a contractor, performing electrical installation works on cable connections and grounding, and is responsible for the procurement and delivery of equipment, as well as the construction of container substations for SE Gornji Humac. The

completion of the works is expected by March of this year.

# • In Dalmatia, on seven solar power plants

At the end of 2023, HELB initiated the ambitious project of building seven solar power plants in the Split-Dalmatia County. The project involves laying over 6 kilometers of 110 kV cables with accompanying equipment. The first two sections were successfully laid, using a trailer and winch for cable laying, with the production of connectors and cable terminations to follow soon. HELB plans to complete all works by the end of March 2024, contributing to the development of sustainable energy in the region.



Laying cables

## **SAJMOVI I KONFERENCIJE**

#### Job Fair



Job Fair

More than 150 companies participated in the 16th Job Fair, organized by the Faculty of Electrical Engineering and Computing, the Student Union of FER, and the Electrical Engineering Student Club (KSET) at the Zagreb Fair. Visitors had the opportunity to attend 24 talks and participate in 17 workshops. HELB hosted numerous students at its booth, introducing them to the company, its references, and open job positions. Additionally, a simulation of switchgear self-maintenance generated significant interest among students.

#### Sunny Days

HELB participated in the Sunny Days conference, organized by the Renewable Energy Sources of Croatia on the island of Brač at the end of May. Many distinguished experts and energy institutions representatives spoke on topics related to the development of solar energy use, and our colleague Zdravko Ivčić participated in the panel "Production at the place of consumption."



Panel "Production at the place of consumption"

#### HO CIRED

In Trogir, from June 4th to 6th, the eighth conference of the Croatian branch of the International Council on Large Electric Systems (HO CIRED) took place. For the first time, HELB sponsored the conference and had its exhibition space, presenting the new development project DINGO. The system for optimizing losses in advanced networks attracted significant interest and positive reactions from visitors. Additionally, HELB

employees delivered two interesting presentations during CIRED – "Application of closed distribution system model in ensuring energy self-sufficiency of business entities" and "DINGO – Distribution grid optimization pilot project within IRI II KK.01.2.1.02".







**HO CIRED** 

## • 15. Electrical Engineering Days

The 15th Electrical Engineering Days took place on Brač from October 5th to 10th, 2023. This important professional gathering attracted a record number of 1072 participants, including representatives from HELB. The event included 24 expert lectures, with a representative from HELB among the speakers. Participants also visited Gornji Humac, where the solar power plant of the same name with a connection power of 9,9 MW is under construction.



Posjet Gornjem Humcu

# HRO CIGRÉ

For the fifth time, HELB was sponsor of the renowned HRO CIGRÉ consultation, which was



HRO CIGRÉ

held from November 5 to 8 2023 in Šibenik. During the event, HELB presented its historical path and progress, while announcing a new project on the foreign market. Namely, HELB started working at low voltage in 1990 and over the years began to take on more complex projects and record references at increasingly higher voltage levels, through medium to high voltage. Today, HELB is synonymous with expertise in

working on power facilities of all voltage levels up to 400 kV. That is why it is not surprising that it is expanding its activities to the foreign market, where, for example, the construction of a 380 kV transformer station awaits it already this year.

Also, visitors of HRO CIGRÉ had the opportunity to try their hand at a knowledge quiz at the HELB stand, which aroused great interest, and many confirmed that they had a good time and relaxed.

# A DAY TO REMEMBER

## • The Best Colleagues



The Best Colleagues 2022.

February was marked by the election for Best Colleague 2022. All HELB employees could nominate and be nominated in three categories: "Always for cooperation", "Gives more of himself" and "One who knows knowledge". More than half of the employees participated in the selection via an online survey, and the winners of individual categories with the highest number of votes were Filip Bilandžija, Petra Batalić and Danijel Bahlen.

## Women's Day



Women's Day

As every year, Women's Day was celebrated at HELB. A short meeting and a small sign of attention have now become a real tradition.

#### Good Deeds Day

For the second year in a row, HELB participated in the Good Deeds Day. Since 2007, this global initiative has united people and organizations from more than 100 countries around the world with the aim of creating a culture of doing good deeds and raising awareness of the importance of volunteering. This time, donations were collected for a family from Glina who found themselves in difficult conditions after the devastating earthquake in Banovina.

HELB members personally visited the family to hand over the collected funds, clothes and household items, but also to listen to their story and provide support.

# • Day of Health and Safety at Work







Day of Health and Safety

On the occasion of the World Day of Health and Safety Protection at Work, HELB organized internal an competition reward to employees who, through their behavior and actions, promote safe work. The competition lasted from

March 31 to April 14, and it was possible to compete in three categories (Best Health and Safety Protection connoisseur, Safest employee and Best Health and Safety Protection photo), and the award winners are: Filip Pavlović, Krunoslav Benko and Damir Mažar.

#### • Team building

This year, HELB's traditional team building was organized at the Etno farm Mirnovec in Samobor. Employees enjoyed delicious homemade food, team competition, as well as sports games such as football and archery.







Team building

## • Ugly Christmas Sweater Day

Ugly Christmas Sweater Day is an informal holiday during which people wear unusual, sometimes funny and cute Christmas sweaters. As expected, HELB employees did not miss the opportunity to have fun and express their sense of humor and creativity through Christmas outfits.



Ugly Christmas Sweater Day

## Christmas Compliment Box



Christmas Compliment Box

In order to use the opportunity to spread joy, gratitude and positivity during the holiday season, a Christmas Compliment Box was set up in HELB's lobby where HELB employees, completely anonymously, inserted written compliments and messages for their colleagues. Numerous compliments were received, and those to whom they were directed did not hide how much they meant to them, while those who sent them enjoyed the joy of such a small gesture that caused a lot of joy.

#### • End-of-year team party



Thanks to the initiative and engagement of the production team, HELB's employees ended the year with a relaxed end-of-year team party in the production facility. The production team, in addition to being excellent in their professional work, also demonstrated above-average skills in the "barbecue master" discipline!

# **NEW IN 2023**

#### License Sivacon S8



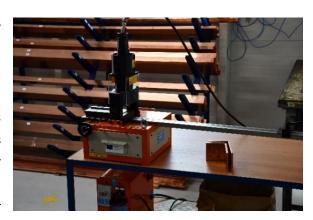
Sivacon S8

HELB became one of Siemens' partners licensed for the production of Sivacon S8 switchgear. It is a electrical distribution system widely used for the distribution of electrical energy in industrial plants and commercial facilities. This modular and flexible system allows users to adapt their electrical distribution systems to their own needs and requirements. In addition, it is characterized by high reliability, as well as

automation, smart solutions, energy efficiency and safety. With this licensing, HELB will position itself even more strongly in the production of high-quality low-voltage distribution cabinets, especially for the foreign market.

#### New equipment

During 2023, HELB's production facility became richer for new, valuable equipment, which further improves the serial production of control and distribution devices. Namely, modern equipment was supplied for the processing of conductors and copper, which were successfully integrated into the existing production processes. Now, in the conductor processing center, in addition to the printer



New equipment

for labelling electrical components, conductors and cables, there is also a set of devices intended for machine cutting and preparing conductors for installation, as well as a set of electrical assembly tools that enable quick and easy switching between interchangeable heads that are used for cutting, joining and punching and are considered one of the most versatile power tools. Also, a laser for marking and engraving has been installed, which significantly speeds up the production of numerous marks in the cabinets. To be used on a

set of new generation devices intended for the machining of copper busbars, so-called "punches/stampers" for punching square openings on copper busbars inside the control cabinet were acquired.

#### HELBil10

During the past year, a new initiative for better internal communication was presented - HELBil10. It is a monthly newsletter whose goal is to enable HELB employees to be informed, connected and motivated. This is only the beginning of the journey towards better communication and greater togetherness.

# • Digital transformation

HELB implements the project "Digital transformation of the energy plant production process". Grants from the European Structural and Investment Funds were approved for the project. As part of the project, in addition to the procurement of hardware, new software solutions will be implemented that will enable the improvement of business processes. In order to ensure IT support and IT system security, and for the needs of commercialization of new products and services, employee education will be carried out. The implementation of the project will enable the growth of competitiveness on the domestic and foreign markets, better support for business processes and strengthening of the digital capacities of employees.